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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,141	03/22/2006	Ingo Krohne	047.0074	3141
3404 7590 11/09/2007 PURDUE LAW OFFICES 2735 N. HOLLAND-SYLVANIA ROAD SUITE B-2 TOLDEO, OH 43615			EXAMINER ROJAS, OMAR R	
			ART UNIT 2874	PAPER NUMBER
			MAIL DATE 11/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

TH

Office Action Summary	Application No.		Applicant(s)	
	10/573,141		KROHNE ET AL.	
	Examiner		Art Unit	
	Omar Rojas		2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 7-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/22/2006</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The prior art documents submitted by applicant(s) in the Information Disclosure Statement(s) ("IDS") filed on 03/22/2006 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(I) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The disclosure is objected to because of the following informalities: The specification lacks section headings provided in 37 CFR 1.77(b).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 7, 8, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Patent No. US 7,031,579 B2 to Sisodia et al. ("Sisodia").**

In re claim 7, Sisodia discloses an optical system (**Fig. 9**) comprising:

a light source (**8**),

a fiber optic bundle (**13**) having a proximal end (**11**) and a distal end (**15**), and a micromirror unit (**5**) for injecting the light from the light source into the proximal end (**11**) of the fiber optic bundle (**13**), characterized in that the diameter of the optical fibers (**Fig. 3, 23**) of the fiber optic bundle (**13**) is greater at the proximal end (**11**) than at the distal end (**15**) (**column 7, lines 63-66**) and that the optical fibers (**23**) are arranged in a fixed grid, as seen in **Fig. 3**, at the proximal end (**11**) of the fiber optic bundle (**13**).

In re claim 8, the particular limitations are clearly suggested by Sisodia at column 11, lines 38-46.

In re claim 12, Sisodia shows a microlens unit (10) is arranged in the radiation direction before the proximal end (11) of the fiber optic bundle (13), so that the light is focused by individual microlenses onto the proximal end (11) of the illuminated optical fibers (13).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 7-9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. US 6,464,633 B1 to Hosoda et al. ("Hosoda") in view of Patent No. 4,938,205 to Nudelman. The Nudelman patent was cited by applicant(s) in the IDS.**

In re claims 7 and 8, Hosoda shows in Figures 83-84 an endoscope (611) comprising:

a light source (521),

a fiber optic bundle (621) having a proximal end and a distal end, and a micromirror unit (636) for injecting the light from the light source into the proximal end of the fiber optic bundle (621), characterized in that the optical fibers (638) are arranged in a fixed grid, e.g. as shown in Fig. 71B, at the proximal end of the fiber optic bundle (621).

In re claims 12 and 13, Hosoda shows microlens unit (636) arranged in the radiation direction before the proximal end of the fiber optic bundle (621), so that the light is focused by individual microlenses (637) onto the proximal end of the illuminated optical fibers (638).

Thus, Hosoda only differs from claims 7, 8, 12, and 13, in that he does not teach that his optical fibers taper conically from the proximal end to the distal end of the bundle. Nudelman, on the other hand, teaches a fiber bundle 100 for use in endoscopes that comprises optical fibers 104 that are conically tapered from a proximal end to a distal end of the bundle 100. See Nudelman at column 11, lines 3-15. The motivation or suggestion for combining is mentioned by Nudelman at column 11, lines 18-22, i.e. larger heat capacity and damage resistance. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 7, 8, 12, and 13 in view of Hosoda combined with Nudelman.

In re claim 9, Hosoda combined with Nudelman only differ from the claim in that Nudelman does not expressly mention a ratio of the diameters of the optical fibers is 3 or less. Nudelman,

however, does mention that a demagnification of approximately 4 is provided when the ratio of the input diameter to the output diameter of the optical fiber is about 4. See Nudelman at column 11, line 65 to column 12, line 3. The motivation or suggestion for using ratio of 3 or less as specified by claim 9 would have been to improve optical resolution by lowering the demagnification. Therefore, it would have also been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 9 in view of Hosoda combined with Nudelman.

9. Claims 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sisodia as applied to claims 7, 8, and 12 and further in view of Patent No. 3,853,658 to Ney. The Ney patent was cited by applicant(s) in the IDS.

In re claims 10 and 14, Sisodia only differs in that he does not teach a fiber holding unit as claimed. Ney, however, discloses a fiber holding unit 7 identical to that claimed. The motivation or suggestion for combining is mentioned by Ney at column 3, lines 64-68, i.e. form a larger magnifier bundle of any size or shape easily. Therefore, it would have been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claims 10 and 14 in view of Sisodia combined with Ney.

10. Claims 10, 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosoda combined with Nudelman as applied to claims 7-9, 12, and 13 above, and further in view of Ney.

In re claims 10, 11, 14 and 15, Hosoda and Nudelman only differ in that neither reference teaches a fiber holding unit as claimed. Ney, however, discloses a fiber holding unit 7 identical to that claimed. The motivation or suggestion for combining is mentioned by Ney at column 3, lines 64-68, i.e. form a larger magnifier bundle of any size or shape easily. Therefore, it would have been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claims 10, 11, 14 and 15 in view of Hosoda combined with Nudelman and Ney.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (9:00PM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Omar Rojas/
Patent Examiner, Art Unit 2874

or
November 7, 2007